Mean from a frequency table

Grade 3 | Worked solutions

GCSE Statistics topic practice

1 The table shows the number of pets owned by each of 10 families.

Number of pets	0	1	2	3
Number of families	2	4	3	1

a. Work out the total number of pets owned by the 10 families. (2)

b. Work out the mean number of pets per family. (1)

(3 marks)

a) pets x families for each column

$0 \times 2 = 0$

$1 \times 4 = 4$

$2 \times 3 = 6$

$3 \times 1 = 3$

$0 + 4 + 6 + 3 = 13$

b) mean = total pets ÷ number of families

$13 \div 10 = 1.3$

a) 13 pets b) 1.3 pets

2 The table shows the number of goals scored by a hockey team in each of 20 matches.

Number of goals	0	1	2	3	4
Frequency	3	6	5	4	2

a. Work out the mean number of goals scored per match. (3)

b. Write down the mode. (1)

(4 marks)

a) goals x frequency for each column

$0 \times 3 = 0$

$1 \times 6 = 6$

$2 \times 5 = 10$

$3 \times 4 = 12$

$4 \times 2 = 8$

total number of goals

$0 + 6 + 10 + 12 + 8 = 36$

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mean = total goals ÷ total frequency

36 ÷ 20 = 1.8

b) highest frequency is 6

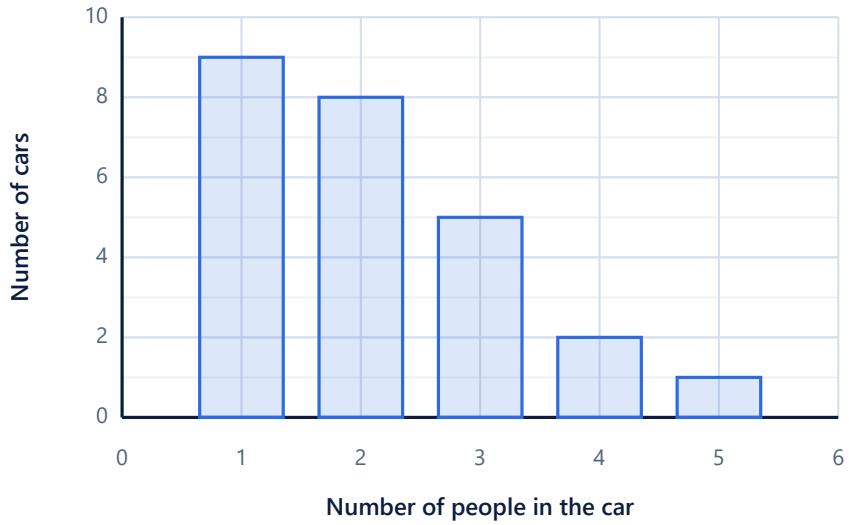
mode = 1 goal

a) 1.8 goals b) 1 goal

3 Chloe counted the number of people in each of 25 cars going past her school. The bar chart shows her results.

a. How many cars had exactly 1 person in them? (1)

b. Work out the mean number of people per car. (3)



(4 marks)

a) height of the bar for 1 person

9 cars

b) people x cars for each bar

1 x 9 = 9

2 x 8 = 16

3 x 5 = 15

4 x 2 = 8

5 x 1 = 5

total number of people

9 + 16 + 15 + 8 + 5 = 53

mean = total people ÷ number of cars

53 ÷ 25 = 2.12

a) 9 b) 2.12 people

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4 The table shows the number of pupils who were late to a class on each of 30 days.

Number of pupils late	0	1	2	3	4
Number of days	10	9	7	3	1

Sam works out the mean like this: 30 ÷ 5 = 6 pupils late per day.

a. Explain how you can tell, without working it out, that Sam's answer must be wrong. (1)

b. Work out the correct mean number of pupils late per day. (3)

(4 marks)

a)

The most pupils late on any day is 4

The mean cannot be bigger than 4

b) pupils late x days for each column

0 x 10 = 0

1 x 9 = 9

2 x 7 = 14

3 x 3 = 9

4 x 1 = 4

total number of pupils late

0 + 9 + 14 + 9 + 4 = 36

mean = total late ÷ number of days

36 ÷ 30 = 1.2

a) mean cannot be above 4 b) 1.2

5 A shop recorded the number of items returned on each of 20 days in May. One frequency is missing from the table.

Number of items returned	0	1	2	3
Number of days	4	7		3

a. Work out the missing frequency. (1)

b. Work out the mean number of items returned per day. (3)

c. In April the mean was 1.9 items returned per day.
Compare the numbers of items returned in April and in May. (1)

(5 marks)

a) the frequencies add up to 20

4 + 7 + 3 = 14

20 - 14 = 6

b) items x days for each column

0 x 4 = 0

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$1 \times 7 = 7$

$2 \times 6 = 12$

$3 \times 3 = 9$

total number of items returned

$0 + 7 + 12 + 9 = 28$

mean = total items ÷ number of days

$28 \div 20 = 1.4$

c) 1.4 is less than 1.9

On average fewer items were returned each day in May than in April

a) 6 b) 1.4 c) fewer per day in May

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